CLAIMS

1) Blasting process of acidic gases in gaseous effluents characterised in that it consists of atomising, in the gaseous flow of combustion fumes to be purified, a stable acqueous suspension of calcium oxide (CaO) as means for absorbing the acidic gases present in them.

2) Blasting process of acidic gases in gaseous effluents according to the previous claim, characterised in that the hydration of the calcium oxide takes place during the evaporation step and the consequent heating of the droplets of said stable acqueous suspension of calcium oxide injected into said gaseous flow.

3) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that it uses the hydration heat which develops durino the atomisation of said stable acqueous solution of calcium oxide in said gaseous flow to increase the evaporation speed of said droplets to fragment them together with the particles of calcium hydroxide which have formed.

4) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that said particles of calcium hydroxide which have formed have an increase in their porosità, their surface area and a reduced size which increases their surface reactivity.

5) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that said stable acqueous suspension contains up to 75% solid content of calcium oxide calculated based upon solid after drying, i.e. on Ca(OH)2.

6) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that the temperature of said stable acqueous suspension of calcium oxide (CaO) is predetermined and controlled bifore its atomisation.

7) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that said acqueous suspension is continually kept in movement.

8) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that said stable acqueous suspension of calcium oxide (CaO) contains CaCl2 and HCl as additives.

9) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that the CaCl2 or l'HCl are added to said suspension just bifore the atomisation step.

10) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that the concentration of CaCl2 is substantially between 0.1% and 1 % by weight with respect to the calcium oxide.

11) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that said stable acqueous suspension of calcium oxide (CaO) contains one or more of the following additives: calcium lignin sulphonate, calcium sulphate with various concentrations and in the various forms and sulphuric acid as well as any chemical compound which contains sulphuric groups.

12) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that said suspension is atomised in combustion fumes or clean gases (air) at a temperature greater than 60°C.

13) Blasting process of acidic gases in gaseous effluents according to one or more of the previous claims, characterised in that with a temperature of the water of said stable acqueous suspension of calcium oxide (CaO) of less than 30°C the concentration of calcium lignin sulphonate is substantially greater than 1% by weight in the water.

14) Procedure for producine an acqueous suspension based upon calcium oxide for use in a blasting process of acidic gaseous effluents, characterised in that said suspension is stabilised through the control of the temperature and/or with the addition of additives such as calcium lignin sulphonate, calcium sulphate, sulphuric acid as well as any chemical compound which contains sulphuric groups.

15) Acqueous suspension realised in accordance with the procedure described in the previous claim.